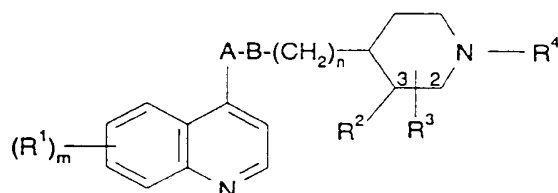


Claims

1. A method of treatment of bacterial infections in mammals, particularly in man, which method comprises the administration to a mammal in need of such treatment of an effective amount of a quinoline of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

- 10 m is 1 or 2

- each R¹ is independently hydroxy; (C₁₋₆) alkoxy optionally substituted by (C₁₋₆) alkoxy, amino, piperidyl, guanidino or amidino optionally N-substituted by one or two (C₁₋₆) alkyl, acyl or (C₁₋₆) alkylsulphonyl groups, NH₂CO, hydroxy, thiol, (C₁₋₆) alkylthio, heterocyclylthio, heterocyclioxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆) alkylsulphonyloxy; (C₁₋₆) alkoxy-substituted (C₁₋₆) alkyl; halogen; (C₁₋₆) alkyl; (C₁₋₆) alkylthio; nitro; azido; acyl; acyloxy; acylthio; (C₁₋₆) alkylsulphonyl; (C₁₋₆) alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C₁₋₆) alkyl, acyl or (C₁₋₆) alkylsulphonyl groups;

- 20 either R² is hydrogen; and

R³ is in the 2- or 3-position and is hydrogen or (C₁₋₆) alkyl or (C₂₋₆) alkenyl optionally substituted with 1 to 3 groups selected from:

- thiol; halogen; (C₁₋₆) alkylthio; trifluoromethyl; azido; (C₁₋₆) alkoxycarbonyl; (C₁₋₆) alkylcarbonyl; (C₂₋₆) alkenyloxycarbonyl; (C₂₋₆) alkenylcarbonyl; hydroxy optionally substituted by (C₁₋₆) alkyl, (C₂₋₆) alkenyl, (C₁₋₆) alkoxycarbonyl, (C₁₋₆) alkylcarbonyl, (C₂₋₆) alkenyloxycarbonyl, (C₂₋₆) alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆) alkyl, (C₂₋₆) alkenyl, (C₁₋₆) alkylcarbonyl or (C₂₋₆) alkenylcarbonyl; amino optionally mono- or disubstituted by (C₁₋₆) alkoxycarbonyl, (C₁₋₆) alkylcarbonyl, (C₂₋₆) alkenyloxycarbonyl, (C₂₋₆) alkenylcarbonyl, (C₁₋₆) alkyl, (C₂₋₆) alkenyl, (C₁₋₆) alkylsulphonyl, (C₂₋₆) alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆) alkyl or (C₂₋₆) alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆) alkyl, hydroxy(C₁₋₆) alkyl, aminocarbonyl(C₁₋₆) alkyl, (C₂₋

6)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; oxo; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; or

R³ is in the 3-position and R² and R³ together are a divalent residue =CR⁵¹R⁶¹ where R⁵¹ and R⁶¹ are independently selected from H, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, aryl(C₁₋₆)alkyl and aryl(C₂₋₆)alkenyl, any alkyl or alkenyl moiety being optionally substituted by 1 to 3 groups selected from those listed above for substituents on R³;

R⁴ is a group -CH₂-R⁵ in which R⁵ is selected from:

(C₃₋₁₂)alkyl; hydroxy(C₃₋₁₂)alkyl; (C₁₋₁₂)alkoxy(C₃₋₁₂)alkyl; (C₁₋₁₂)alkanoyloxy(C₃₋₁₂)alkyl; (C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; hydroxy-, (C₁₋₁₂)alkoxy- or (C₁₋₁₂)alkanoyloxy-(C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; cyano(C₃₋₁₂)alkyl; (C₂₋₁₂)alkenyl; (C₂₋₁₂)alkynyl; tetrahydrofuryl; mono- or di-(C₁₋₁₂)alkylamino(C₃₋₁₂)alkyl; acylamino(C₃₋₁₂)alkyl; (C₁₋₁₂)alkyl- or acyl-aminocarbonyl(C₃₋₁₂)alkyl; mono- or di-(C₁₋₁₂)alkylamino(hydroxy) (C₃₋₁₂)alkyl; optionally substituted phenyl(C₁₋₂)alkyl, phenoxy(C₁₋₂)alkyl or phenyl(hydroxy)(C₁₋₂)alkyl; optionally substituted diphenyl(C₁₋₂)alkyl; optionally substituted phenyl(C₂₋₃)alkenyl; optionally substituted benzoyl or benzoylmethyl; optionally substituted heteroaryl(C₁₋₂)alkyl; and optionally substituted heteroaroyl or heteroaroylmethyl;

n is 0, 1 or 2;

A is NR¹¹, O, S(O)_x or CR⁶R⁷ and B is NR¹¹, O, S(O)_x or CR⁸R⁹ where x is 0, 1 or 2 and wherein:

each of R⁶ and R⁷ R⁸ and R⁹ is independently selected from: H; thiol; (C₁₋₆)alkylthio; halo; trifluoromethyl; azido; (C₁₋₆)alkyl; (C₂₋₆)alkenyl; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R³; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₁₋₆)alkenyl;

or R⁶ and R⁸ together represent a bond and R⁷ and R⁹ are as above defined;

or R⁶ and R⁸ together represent -O- and R⁷ and R⁹ are both hydrogen;

or R⁶ and R⁷ or R⁸ and R⁹ together represent oxo;

and each R¹¹ is independently H, trifluoromethyl, (C₁₋₆)alkyl, (C₁₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₁₋

6) alkenyloxycarbonyl, (C₂₋₆) alkenylcarbonyl, (C₁₋₆) alkyl or (C₁₋₆) alkenyl and optionally further substituted by (C₁₋₆) alkyl or (C₁₋₆) alkenyl;

provided that A and B cannot both be selected from NR¹¹, O and S(O)_x and when one of A and B is CO the other is not CO, O or S(O)_x.

2. A compound of formula (IA) which is a compound of formula (I) wherein R³ is hydroxy(C₁₋₆) alkyl or 1,2-dihydroxy(C₂₋₆) alkyl optionally substituted on the hydroxy group(s).

3. A compound of formula (IB) which is a compound of formula (I) wherein at least one R¹ is (C₂₋₆) alkoxy substituted by optionally N-substituted amino, guanidino or amidino or C₁₋₆ alkoxy substituted by piperidyl, A is CH₂, CHOH, CH(NH₃), C(Me)(OH) or CH(Me) and B is CH₂, CHOH or CO.

4. A method according to claim 1 wherein R¹ is in the 6-position on the quinoline nucleus and is methoxy, amino(C₃₋₅) alkyl, nitro or fluoro and m is 1.

5. A method according to claim 1 or 4 wherein R³ is (C₁₋₆) alkyl, (C₁₋₆) alkenyl, optionally substituted 1-hydroxy-(C₁₋₆) alkyl

6. A method according to claim 5 wherein R³ is hydroxymethyl, 1-hydroxyethyl or 1,2-dihydroxyethyl wherein the 2-hydroxy group is optionally substituted with alkylcarbonyl or aminocarbonyl where the amino group is optionally substituted.

7. A method according to any one of claims 1 and 4 to 6 wherein R³ is in the 3-position.

8. A method according to any one of claims 1 and 4 to 7 wherein A is NH, NCH₃, O, CH₂, CHOH, CH(NH₃), C(Me)(OH) or CH(Me) and B is CH₂, CHOH, CO or S or A is CR⁶R⁷ and B CR⁸R⁹ and R⁶ and R⁸ together represent -O- and R⁷ and R⁹ are both hydrogen, and n is 0 or 1.

9. A method according to claim 8 wherein:

A is NH, B is CO and n is 1 or 0;

A is O, B is CH₂ and n is 1 or 0;

A is CH₂ or CH₂OH, B is CH₂, and n is 1 or 0;

A is NCH₃, CH(NH₃), C(Me)(OH) or CH(Me), B is CH₂ and n is 1

A is CR⁶R⁷ and B CR⁸R⁹ and R⁶ and R⁸ together represent -O- and R⁷ and R⁹ are both hydrogen and n is 1.

10. A method according to any one of claims 1 and 4 to 9 wherein R⁴ is (C₅₋₁₀) alkyl, unsubstituted phenyl(C₂₋₃) alkyl or unsubstituted phenyl(C₃₋₄) alkenyl.

11. A method according to any one of claims 1 and 4 to 10 wherein R⁵ is unbranched at the α and, where appropriate, β positions.

12. A compound of formula (I) as defined in claim 1 selected from:

[3R,4R]-3-Ethyl-1-hexyl-4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]piperidine;

- [3R,4R]-3-Ethyl-1-hexyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R] 3-Ethyl-1-heptyl-4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 5 [3R,4R] 3-Ethyl-1-octyl-4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-octyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-decyl-4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 10 [3R,4R]-3-Ethyl-1-decyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-dodecyl-4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R] 3-Ethyl-1-dodecyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 15 [3R,4R]-3-Ethyl-1-cinnamyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethenyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 20 [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-hydroxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-1-Heptyl-3-(2-hydroxyethyl)-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-[5-phthalimidopentyloxy]-quinolin-4-yl)propyl]piperidine;
- 25 [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-[5-aminopentyloxy]-quinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-[2-Amino-2-oxo-1,1-dimethyl]ethoxyquinolin-4-yl)propyl]piperidine;
- 30 [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-[2-hydroxy-2-methylpropionamido]quinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-aminoquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-azidoquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-hydroxyquinolin-4-yl)propyl]piperidine;
- 35 [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-propyloxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-(5-Phthalimidopentyloxy)-quinolin-4-yl)propyl]piperidine;

- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-(5-aminopentyloxy)-quinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethenyl-1-(2-*t*-butyloxycarbonylaminoethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethenyl-1-(2-phenoxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
5 [3R,4R]-3-Ethyl-1-(4-ethylbenzyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3S,4R]-3-Ethenyl-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethenyl-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-1-Heptyl-3-(2-hydroxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-1-Heptyl-3-(2-acetoxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
10 [3R,4R]-1-Heptyl-3-(3-hydroxypropyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-1-Heptyl-3-(1-hydroxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethyl-1-(2-phenylethyl)-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethyl-1-(3-phenylpropyl)-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
15 Heptyl-4-[2-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
1-Heptyl-4-[3-(6-methoxyquinolin-4-yl)prop-2-enyl]piperidine;
1-Heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethyl-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)butyl]piperidine;
20 [3R,4R]-3-Ethenyl-1-heptyl-4-[3-(R,S)-azido-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethenyl-1-heptyl-4-[3-(R,S)-amino-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
25 [3R,4R]-3-Ethyl-1-heptyl-4-(3-(R,S)-amino-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)butyl]piperidine;
[3R,4R]-3-Ethenyl-1-heptyl-4-(3-(R,S)-acetamido-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
30 [3R,4R]-1-Heptyl-3-(2-(R,S)-Hydroxypropyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-1-Heptyl-3-(1-(R,S),2-dihydroxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R,4R]-1-Heptyl-3-aminocarbonyloxyethyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
35 [3R,4R]-3-Ethylloxycarbonylaminoethyl-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

- [3R,4R]-3-(1-(R,S)-2-Dihydroxyethyl)-1-heptyl-4-[3-(R,S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R, 4R]-3-Ethyl-1-heptyl-4-[(6-methoxyquinolinyl-4-oxy)methyl]piperidine;
- [3R,4S]-3-Ethenyl-1-heptyl-4-[2-(6-methoxyquinolin-4-yl)-oxyethyl]piperidine;
- 5 1-Heptyl-4-[(6-methoxyquinolin-4-yl)oxymethyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[(6-methoxyquinolin-4-yl)methylthiomethyl]piperidine;
- [3R,4R]-1-Heptyl-3-ethenyl-4-[(6-methoxyquinoline-4-yl)carbonylamino]methyl]piperidine;
- [3R,4R]-3-Ethenyl-1-heptyl-piperidine-4-[N-(6-methoxyquinolin-4-yl)]propionamide;
- 10 [3R,4R]-3-Ethenyl-1-heptyl-piperidine-4-[N-(6-methoxyquinolin-4-yl)]propylamine;
- [3R,4S]-3-Ethenyl-1-heptyl-piperidine-4-[N-(6-methoxyquinolin-4-yl)]acetamide;
- [3R,4R]-3-Ethenyl-1-heptyl-piperidine-4-[N-(6-methoxyquinolin-4-yl)]ethylamine;
- [3R,4S]-3-Ethenyl-1-heptyl-4-[2-(R,S)-hydroxy-2-(6-methoxyquinolin-4-yl)ethyl]piperidine;
- 15 [3R,4R]-3-Ethenyl-1-heptyl-4-[2-(6-methoxyquinolin-4-yl)ethyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[2-(6-methoxyquinolin-4-yl)ethyl]piperidine;
- 1-Heptyl-4-[2(R,S)-hydroxy-2-(6-methoxy-4-quinolinyl)ethyl]-piperidine;
- [3S,4R]-3-Ethenyl-1-heptyl-4-[2-(6-methoxyquinolin-4-yl)ethyl]piperidine;
- N-(6-Methoxy-4-quinolinyl)-1-heptyl-4-piperidinecarboxamide;
- 20 (3Z)-(4R)-3-Ethylidene-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4S]-1-Cinnamyl-4-[2-(6-methoxyquinolin-4-yl)-oxyethyl]piperidine;
- [3R,4R]-3-(2-Acetoxyethyl)-1-heptyl-4-[3-(6-methoxy-quinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-{2-hydroxyethyloxy}quinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-(Ethylaminocarbonyloxyethyl)-1-heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 25 [3R,4R]-3-Ethenyl-1-heptyl-4-[3-(R,S)-aminocarbonylamino-3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- [3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-(4-aminobutyloxy)-quinolin-4-yl)propyl]piperidine;
- [3R, 4R]-1-Heptyl-3-(1-(R)- and 1-(S)-hydroxy-2-methoxyethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
- 30 [3R, 4R]-1-Heptyl-3-(1-(R)- and 1-(S)-hydroxy-2-methylthioethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl]piperidine;
- [3R, 4R]-1-(5-Methylhexyl)-3-(1-(R)- and 1-(S)-2-dihydroxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
- 35 [3R, 4R]-3-Ethyl-1-heptyl-4-[3-(6-(3-aminopropyl)oxyquinolin-4-yl) propyl]piperidine;
- [3R, 4R]-3-Ethyl-1-heptyl-4-[3-(6-(2-aminoethyl)oxyquinolin-4-yl) propyl]piperidine;

[3R,4R]-3-Ethyl-1-heptyl-4-[3-(6-(3-guanidinopropyl)oxyquinolin-4-yl) propyl]
piperidine;

[3R, 4R]-3-Ethyl-1-heptyl-4-[3-(6-(piperidine-4-yl) methoxyquinolin-4-yl)
propyl]piperidine;

5 [3R, 4S]-1-Heptyl-3-vinyl-4-[3-(6-methoxyquinolin-4-yl)-(R,R)-oxiran-2-
ylmethyl]piperidine;

[3R, 4S]-1-Heptyl-4-[(2S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]-3-vinylpiperidine;

[3R, 4S]-1-Heptyl-3-vinyl-4-[3-(6-methoxyquinolin-4-yl)-(S,S)-oxiran-2-yl-
methyl]piperidine;

10 [3R, 4S]-3-Ethyl-1-heptyl-4-[2-(S)-hydroxy-3-(6-methoxyquinolin-4-
yl)propyl]piperidine;

[3R, 4S]-1-Heptyl-4-[N-methyl-N-(6-methoxyquinolin-4-yl)aminoethyl]-3-
vinylpiperidine;

[3R,4R]-1-Heptyl-3-(1-(R,S)-hydroxyethyl)-4-[3-(6-methoxyquinolin-4-
yl)propyl]piperidine;

15 [3R,4R]-1-Heptyl-3-(1-(R,S)-hydroxy-1-methylethyl)-4-[3-(6-methoxyquinolin-4-
yl)propyl]piperidine;

[3R,4R]-1-Heptyl-3-hydroxymethyl-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

20 [3R,4R]-1-(6-Methylheptyl)-3-(1-(R) and 1-(S),2-dihydroxyethyl)-4-[3-(6-
methoxyquinolin-4-yl)propyl]piperidine;

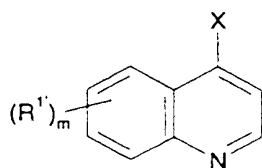
[3R, 4S]-1-Heptyl-4-[(2S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]-3-(2-
hydroxyethyl)piperidine;

[3R, 4S]-1-Heptyl-3-aminocarbonyloxymethyl-4-[3-(6-methoxyquinolin-4-
yl)propyl]piperidine and

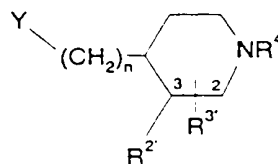
25 [3R, 4R]-1-Heptyl-4-[3-(6-methoxyquinolin-4-yl)propyl]-3-(2-carbamoyl)ethyl)piperidine;
or a pharmaceutically acceptable derivative of any of the foregoing compounds.

13. A process for preparing a compound of formula (I), or a pharmaceutically
acceptable derivative thereof, according to claim 2, 3 or 12 which process comprises:

(a) reacting a compound of formula (IV) with a compound of formula (V):



(IV)



(V)

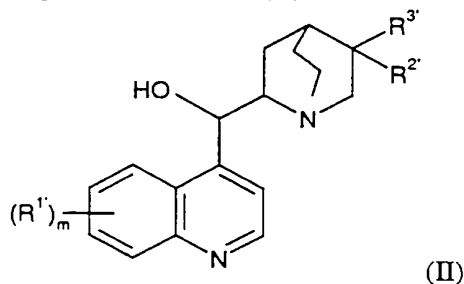
wherein m, n, R¹, R², R³ and R⁴ are as defined in formula (I), and X and Y may
be the following combinations:

- (i) X is M and Y is $\text{CH}_2\text{CO}_2\text{R}^X$
 (ii) X is CO_2R^Y and Y is $\text{CH}_2\text{CO}_2\text{R}^X$
 (iii) one of X and Y is $\text{CH}=\text{SPh}_2$ and the other is CHO
 (iv) X is CH_3 and Y is CHO
 5 (v) X is CH_3 and Y is CO_2R^X
 (vi) X is $\text{CH}_2\text{CO}_2\text{R}^Y$ and Y is CO_2R^X
 (vii) X is $\text{CH}=\text{PR}^Z_3$ and Y is CHO
 (viii) X is CHO and Y is $\text{CH}=\text{PR}^Z_3$
 (ix) X is halogen and Y is $\text{CH}=\text{CH}_2$
 10 (x) one of X and Y is COW and the other is $\text{NHR}^{11'}$ or NCO
 (xi) one of X and Y is $(\text{CH}_2)_p\text{-V}$ and the other is $(\text{CH}_2)_q\text{NHR}^{11'}$, $(\text{CH}_2)_q\text{OH}$,
 $(\text{CH}_2)_q\text{SH}$ or $(\text{CH}_2)_q\text{SCOR}^X$ where $p+q=1$
 (xii) one of X and Y is CHO and the other is $\text{NHR}^{11'}$
 (xiii) one of X and Y is OH and the other is $-\text{CH}=\text{N}_2$

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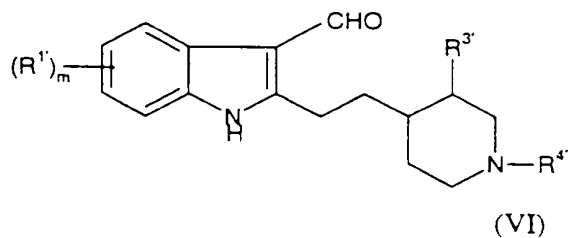
in which V and W are leaving groups, R^X and R^Y are (C_{1-6}) alkyl and R^Z is aryl or (C_{1-6}) alkyl;

(b) rearranging a compound of formula (II):



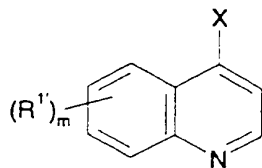
- 20 to give a compound of formula (III) which is a compound of formula (I) where R^3 is in the 3-position, n is 1, A-B is COCH_2 or disubstituted epoxide and R^2 is H, and thereafter optionally reducing to a compound of formula (VII) which is a compound of formula (I) where n is 1, A-B is CHOHCH_2 or CH_2CHOH and R^2 is H;

- 25 (c) photooxygenating a compound of formula (VI):

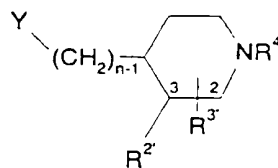


or

(d) reacting a compound of formula (IV) with a compound of formula (Vb):



(IV)



(Vb)

wherein m , n , R^1 , R^2 , R^3 and R^4 are as defined in formula (I), X is $\text{CH}_2\text{NHR}^{11'}$ and Y is CHO or COW or X is CH_2OH and Y is $-\text{CH}=\text{N}_2$;

in which $R^{11'}$, R^1 , R^2 , R^3 and R^4 are R^{11} , R^1 , R^2 , R^3 and R^4 or groups convertible thereto, and thereafter optionally or as necessary converting $R^{11'}$, R^1 , R^2 , R^3 and R^4 to R^{11} , R^1 , R^2 , R^3 and R^4 , converting A-B to other A-B, interconverting R^{11} , R^1 , R^2 , R^3 and/or R^4 and forming a pharmaceutically acceptable derivative thereof.

14. A pharmaceutical composition comprising a compound according to claim 2, 3 or 12, and a pharmaceutically acceptable carrier.

15. The use of a compound of formula (I) or a pharmaceutically acceptable derivative thereof as defined in claim 1 in the manufacture of a medicament for use in the treatment of bacterial infections in mammals.

16. A pharmaceutical composition for use in the treatment of bacterial infections in mammals comprising a compound of formula (I), or a pharmaceutically acceptable derivative thereof as defined in claim 1, and a pharmaceutically acceptable carrier.